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10/530,219	03/31/2005	Tomohiro Yamada	OMOR-0010	1261

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EXAMINER	
SHECHTMAN, SEAN P	
ART UNIT	PAPER NUMBER
2121	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/530,219	YAMADA ET AL.	
	Examiner	Art Unit	
	Sean P. Shechtman	2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 August 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,4 and 6-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 7-15* is/are rejected.

7)☒ Claim(s) *3,4 and 6* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 March 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. Objections withdrawn.

Claim Objections

2. Claims 1, 14 are objected to because of the following informalities: numerals should be numeral. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. Rejections withdrawn.

Claim Rejections - 35 USC § 101

4. Rejections withdrawn.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1, 14, are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Pub. No. 2001/0056488 to Maeda et al (hereinafter referred to as Maeda), which is the U.S. Application Publication corresponding to EP1152362 to Maeda, previously relied upon for the rejection, which was previously supplied by applicant.

Referring to claims 1, 14, Maeda teaches a method/computer/system/instruction means stored in said storage medium for generating a parts catalog of a product from three dimensional data and a parts list of the product (For example, Fig. 10, paragraphs 203-207), wherein the parts catalog comprises the parts list listing at least a name of a part and a reference numeral/symbol of the part (For example, Fig. 10, element 1462),

and a disassembled illustration of the product wherein the part in the parts list is illustrated in a disassembled state with its reference numeral/symbol (For example, Fig. 10, element 1461); said three dimensional data comprising assembly structure information of the product (For example, Fig. 10, element 1461); and the parts list being a list of parts or partially assembled parts of the product (For example, Fig. 10, element 1462) and wherein a user creates said parts list and (Figs. 60-61, 64, paragraphs 427-430, character data fed via keyboard includes index No., ID No., name, used numbers);

the method comprising the steps of: assigning a reference numeral/ symbol to said parts and partially assembled parts in the parts list (Figs. 60-61, paragraphs 427-430, character data fed via keyboard includes index No.), building a disassembly algorithm based on said parts list (paragraph 252, data of part stored in parts table of the drawing; Figs. 37, 38, paragraph 329-330, drawing table stores graphic data and parts table stores index No. of the parts for those graphics; paragraph 228, referring back to Fig. 10, element 1461 and paragraphs 203-207, element 1461 comprises image data with drawing AND the index No. attached to the parts of the drawing); and generating disassembly illustrations from said three dimensional data based on said disassembly algorithm (For example, Fig. 10, element 1461; paragraph 252, data of part stored in parts table of the drawing; Figs. 37, 38, paragraph 329-330, drawing table stores graphic data and parts table stores index No. of the parts for those graphics; paragraph 228, referring back to Fig. 10, element 1461 and paragraphs 203-207, element 1461 comprises image data with drawing AND the index No. attached to the parts of the drawing), wherein maximal disassembled states in the disassembly

illustrations are the parts and partially assembled parts assigned with said reference numeral/symbols (For example, Fig. 10, element 1461 with index Nos.), and displaying said reference numeral/symbol for each of the parts and partially assembled parts in the disassembly illustrations (For example, Fig. 10, element 1461 with index Nos.); or

the method comprising the steps of: assigning a reference symbol to said parts and partially assembled parts in the parts list (Figs. 37, 38, paragraph 329-330, drawing table stores graphic data and graphic data are symbols shown for parts in for example, Fig. 10; Figs. 37, 38, paragraph 329-330, drawing table stores graphic data and parts table stores index No. of the parts for those graphics), building a disassembly algorithm based on said parts list (paragraph 252, data of part stored in parts table of the drawing; Figs. 37, 38, paragraph 329-330, drawing table stores graphic data and parts table stores index No. of the parts for those graphics; paragraph 228, referring back to Fig. 10, element 1461 and paragraphs 203-207, element 1461 comprises image data with drawing AND the index No. attached to the parts of the drawing); and generating disassembly illustrations from said three dimensional data based on said disassembly algorithm (For example, Fig. 10, element 1461; paragraph 252, data of part stored in parts table of the drawing; Figs. 37, 38, paragraph 329-330, drawing table stores graphic data and parts table stores index No. of the parts for those graphics; paragraph 228, referring back to Fig. 10, element 1461 and paragraphs 203-207, element 1461 comprises image data with drawing AND the index No. attached to the parts of the drawing), wherein maximal disassembled states in the disassembly illustrations are the parts and partially assembled parts assigned with said reference symbols (For example,

Fig. 10, element 1461 with graphic data of parts shown), and displaying said reference symbol for each of the parts and partially assembled parts in the disassembly illustrations (For example, Fig. 10, element 1461 with graphic data of parts shown).

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 7-10, are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda as applied to claims 1, 14, above, and further in view of EP 1288868 to Kawai (hereinafter referred to as Kawai).

Referring to claims 7-10, Maeda teaches all of the limitations set forth above however fails to teach further comprising the step of (d) modifying the disassembly algorithm and illustrations after generating the disassembly illustrations; wherein said step (d) modifies each of the disassembly illustrations by modifying a position, a bearing or a scale of each of the parts; wherein said step (d) generates and presents a user interface for modifying the position, bearing or scale for each of the parts or parts groups; wherein said step (d) permits modification of a camera view point information to modify the disassembly illustration.

However, referring to claims 7-10, Kawai teaches a method/computer/system/instruction means stored in said storage medium for generating a parts catalog of a product from three dimensional data and a parts list of the product, wherein the parts catalog comprises the parts list and a disassembled illustration of the product; further comprising the step of (d) modifying the disassembly

algorithm and illustrations after generating the disassembly illustrations; wherein said step (d) modifies each of the disassembly illustrations by modifying a position, a bearing or a scale of each of the parts (Fig. 8-9; Col. 6, line 4 – Col. 7, line 1); wherein said step (d) generates and presents a user interface for modifying the position, bearing or scale for each of the parts or parts groups (Figs. 2-9); wherein said step (d) permits modification of a camera view point information to modify the disassembly illustration (Col. 6, line 43 – Col. 7, line 1).

Maeda and Kawai are analogous art because they are from the same field of endeavor, producing an exploded view of parts/products.

Therefore it would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the teachings of Maeda with the teachings of Kawai.

One of ordinary skill in the art would have been motivated to combine these references because Kawai teaches an exploded view automatic creation device, an exploded view automatic creation method and a storage media thereof by which an exploded view can be easily created. The shape data of the parts of the objective product and the disassembling condition data necessary for creating exploded view are stored in the storage means. The exploded view is created by changing the positioning of the parts constructed from the shape data based on the disassembling condition data. Thus, the exploded view is automatically created when providing the assembling operation instruction manual for the objective product and the exploded view can be obtained easily without troublesome drawing operation. The shape data of the parts of

the objective product and the disassembling condition data necessary for creating the exploded view are stored in the storage means. The exploded view of the design drawing regarding the objective product is created by changing the positioning of the parts constructed from the shape data based on the disassembling condition data in accordance with an exploded view creation command. The exploded view is outputted to the output means. Thus, the exploded view is automatically treated when providing an assembling operation instruction manual regarding the objective product. Accordingly, the exploded view can be easily obtained without bothersome drawing operation (Col. 1, line 41 – Col. 3, line 34).

7. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda in view of Kawai as applied to the claims above, and further in view of JP 2003-006245 to Aragaki (hereinafter referred to as Aragaki), supplied by applicant.

Referring to claims 11-12, Maeda in view of Kawai teaches all of the limitations set forth above however fails to teach modifying the disassembly illustration by determining an interference among the parts during the movements thereof and by modifying the position, bearing or scale for each of the parts or parts groups in the processes; wherein said interference among the parts or parts groups during the movements thereof is determined by calculating the interference among respective polygons circumscribed around each of the parts or parts groups.

However, Aragaki teaches analogous art comprising: modifying the disassembly illustration by determining an interference among the parts or parts groups during the

movements thereof for each of the basic, intermediate and the connecting processes, wherein the basic, intermediate and connecting processes constitute the disassembly definition information, and by modifying the position, bearing or scale for each of the parts or parts groups in the processes; wherein said interference among the parts or parts groups during the movements thereof is determined by calculating the interference among respective polygons circumscribed around each of the parts or parts groups (whole document; see also the international search report of the instant application).

Maeda in view of Kawai and Aragaki are analogous art because they are from the same field of endeavor, shape processing.

Therefore it would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the teachings of Maeda in view of Kawai with the teachings of Aragaki.

One of ordinary skill in the art would have been motivated to combine these references because Aragaki teaches a shape processor which can automatically create a plan in the state of decomposition (Abstract). Furthermore, Aragaki teaches detecting interference between modeled parts during movement and moving the modeled parts to avoid the interference (Abstract).

8. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda in view of Kawai as applied to the claims above, and further in view of "Automatic Arrangement of Meta-Objects in Assembly Illustrations" to Katsuma (hereinafter referred to as Katsuma), supplied by applicant.

Referring to claim 13, Maeda in view of Kawai teaches all of the limitations set forth above however fails to teach the step of drawing a lead line from each of parts and parts groups within the disassembly illustration in order to display said reference numeral/symbol, wherein said step of drawing a lead line projects a movement vector from a pre-disassembly position to a post-disassembly position for said parts and parts groups, onto a plane perpendicular to a view point vector from a view point, and draws said lead line for said reference numeral/symbol from a post-movement object along an axis direction of a shorter component of analyzed vector components constituting such a projected vector.

However, Katsuma teaches analogous art comprising: the step of drawing a lead line from each of parts and parts groups within the disassembly illustration in order to display said reference numeral/symbol, wherein said step of drawing a lead line projects a movement vector from a pre-disassembly position to a post-disassembly position for said parts and parts groups, onto a plane perpendicular to a view point vector from a view point, and draws said lead line for said reference numeral/symbol from a post-movement object along an axis direction of a shorter component of analyzed vector components constituting such a projected vector (whole document; see also the international search report of the instant application).

Maeda in view of Kawai and Katsuma are analogous art because they are from the same field of endeavor, assembly illustrations.

Therefore it would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the teachings of Maeda in view of Kawai with the teachings of Katsuma.

One of ordinary skill in the art would have been motivated to draw a lead line, as taught by Katsuma, to link or associate non-graphic information with a graphic entity, thereby increasing the modeling accuracy.

Response to Arguments

9. Applicant's arguments filed 8/15/08 have been fully considered but they are not persuasive.

Applicant argues that Maeda fails to teach generating a parts catalog of a product from three dimensional data and a parts list of the product. The examiner respectfully disagrees. A catalog is broad in view of the instant specification and the knowledge of one of ordinary skill in the art. While the claimed parts catalog requires additional elements such as a disassembly illustration of the product, a catalog can be interpreted as a simply a complete list of things. Fig. 10 of Maeda teaches a complete list of things for a truck roller. Fig. 10, further shows three dimensional data for the truck roller and a parts list for the truck roller. Maeda further teaches how this display in Fig. 10 is generated, i.e., where the data is coming from, i.e., where the three dimensional data for the truck roller and a parts list for the truck roller come from, namely from memory (paragraph 195). Even if the three dimensional data for the truck roller and a parts list for the truck roller were not in memory, the data must come from somewhere

to be displayed to thereby provide the parts catalog and therefore the data alone reads on the claimed invention.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., an illustration is dynamically generated from three dimensional data such as CAD data based on certain parameters, in the case of the present invention, based on a disassembly algorithm; illustrations created in this manner are the result of rendering three dimensional data into two dimensional illustrations) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Allowable Subject Matter

10. Claims 3, 4, 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

While Maeda teaches a method/computer/system/instruction means stored in said storage medium for generating a parts catalog of a product from three dimensional data and a parts list of the product (For example, Fig. 10, paragraphs 203-207), wherein the parts catalog comprises the parts list listing at least a name of a part and a reference numeral/symbol of the part (For example, Fig. 10, element 1462), and a

disassembled illustration of the product wherein the part in the parts list is illustrated in a disassembled state with its reference numeral/symbol (For example, Fig. 10, element 1461); said three dimensional data comprising assembly structure information of the product (For example, Fig. 10, element 1461); and the parts list being a list of parts or partially assembled parts of the product (For example, Fig. 10, element 1462) and wherein a user creates said parts list and (Figs. 60-61, 64, paragraphs 427-430, character data fed via keyboard includes index No., ID No., name, used numbers); the method comprising the steps of: assigning a reference numeral/ symbol to said parts and partially assembled parts in the parts list (Figs. 60-61, paragraphs 427-430, character data fed via keyboard includes index No.), building a disassembly algorithm based on said parts list (paragraph 252, data of part stored in parts table of the drawing; Figs. 37, 38, paragraph 329-330, drawing table stores graphic data and parts table stores index No. of the parts for those graphics; paragraph 228, referring back to Fig. 10, element 1461 and paragraphs 203-207, element 1461 comprises image data with drawing AND the index No. attached to the parts of the drawing); and generating disassembly illustrations from said three dimensional data based on said disassembly algorithm (For example, Fig. 10, element 1461; paragraph 252, data of part stored in parts table of the drawing; Figs. 37, 38, paragraph 329-330, drawing table stores graphic data and parts table stores index No. of the parts for those graphics; paragraph 228, referring back to Fig. 10, element 1461 and paragraphs 203-207, element 1461 comprises image data with drawing AND the index No. attached to the parts of the drawing), wherein maximal disassembled states in the disassembly illustrations are the

parts and partially assembled parts assigned with said reference numeral/symbols (For example, Fig. 10, element 1461 with index Nos.), and displaying said reference numeral/symbol for each of the parts and partially assembled parts in the disassembly illustrations (For example, Fig. 10, element 1461 with index Nos.); or the method comprising the steps of: assigning a reference symbol to said parts and partially assembled parts in the parts list (Figs. 37, 38, paragraph 329-330, drawing table stores graphic data and graphic data are symbols shown for parts in for example, Fig. 10; Figs. 37, 38, paragraph 329-330, drawing table stores graphic data and parts table stores index No. of the parts for those graphics), building a disassembly algorithm based on said parts list (paragraph 252, data of part stored in parts table of the drawing; Figs. 37, 38, paragraph 329-330, drawing table stores graphic data and parts table stores index No. of the parts for those graphics; paragraph 228, referring back to Fig. 10, element 1461 and paragraphs 203-207, element 1461 comprises image data with drawing AND the index No. attached to the parts of the drawing); and generating disassembly illustrations from said three dimensional data based on said disassembly algorithm (For example, Fig. 10, element 1461; paragraph 252, data of part stored in parts table of the drawing; Figs. 37, 38, paragraph 329-330, drawing table stores graphic data and parts table stores index No. of the parts for those graphics; paragraph 228, referring back to Fig. 10, element 1461 and paragraphs 203-207, element 1461 comprises image data with drawing AND the index No. attached to the parts of the drawing), wherein maximal disassembled states in the disassembly illustrations are the parts and partially assembled parts assigned with said reference symbols (For example, Fig. 10, element

1461 with graphic data of parts shown), and displaying said reference symbol for each of the parts and partially assembled parts in the disassembly illustrations (For example, Fig. 10, element 1461 with graphic data of parts shown).

And, Ando and Kawai teaches tree structure data of parts and subassemblies.

None of Maeda, Ando or Kawai, taken either alone or in obvious combination disclose a method or program for generating a parts catalog of a product having all the claimed features of applicant's instant invention, specifically including: "wherein the parts list includes disassembly definition information comprising a tree structure consisting of a node and leave said node being a process and said leave being a part or a partially assembled part, wherein said node comprises a basic process". It is for these reasons that applicant's invention defines over the prior art of record.

11. The following claim 14 drafted by the examiner and considered to distinguish patentably over the art of record in this application, is presented to applicant for consideration: All of the limitations of currently presented claim 14, and further including the limitation of "the parts list includes disassembly definition information comprising a tree structure consisting of a node and leave said node being a process and said leave being a part or a partially assembled part, wherein said node comprises a basic process".

Conclusion

12. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean P. Shechtman whose telephone number is (571) 272-3754. The examiner can normally be reached on 9:30am-6:00pm, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SPS
Sean P. Shechtman
December 21, 2008

/Sean P. Shechtman/
Primary Examiner, Art Unit 2121